

Words In The News

Teacher's pack

Lesson plan and student worksheets
with answers

Human DNA to be
implanted in rice
7 March 2007



BBC WORLD SERVICE
LEARNING ENGLISH



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Level: Intermediate and above

Topic: Initial permission has been given for rice implanted with human DNA to be grown in Kansas, USA.

Language: Vocabulary of a news report

Aims:

Reading skills	– Understanding a short news report
Language skills	– Practise using infinitive of purpose
Writing skills	– Letters
Reading skills	– Letters

Materials:

Worksheet 1	– Comprehension questions
Worksheet 2	– Vocabulary matching task
Worksheet 3	– Grammar/language focus – infinitive of purpose
News story	– Available online at:

http://www.bbc.co.uk/worldservice/learningenglish/newsenglish/witn/2007/03/070307_crops.shtml

Preparation: Before the lesson, make enough copies of worksheet 2 so that there is one worksheet for every 4 – 5 students. Cut up the vocabulary and explanations, to make a matching exercise. Students also need one copy each of worksheets 1 and 3.

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LESSON STAGES

A Stimulate student interest in text

Generate interest about today's topic by getting students to make a list of advantages and disadvantages of GM foods. They may come up with some of the ideas below, but don't worry if they don't. Stop the activity after 5 minutes.

Some advantages:

- Cheap
- Disease resistant
- Higher yields
- Can be grown in harsher climates

Some disadvantages

- Long-term effects unknown
- Farming is being taken over by biotech companies
- May contaminate non-GM crops
- Un-natural

B Pre-teach essential vocabulary

Elicit/present key vocabulary that students need either to understand the key points in the text or to understand and/or answer any questions that you'll set them later in the lesson. The vocabulary is from Words in the News (so you can elicit the vocabulary by using the explanations provided online or below).

You could either pre-teach the vocabulary at this stage of the lesson or you could use the vocabulary building activity from further down in this lesson plan. Have students working together in small groups and ask them to try to match the vocabulary with the definitions.

Encourage them to work with the other groups to pool their knowledge. When they have done as much as they can, if they have dictionaries, ask them to look up the words to check their answers and to find out the definitions of any words they are not sure of. If they don't have dictionaries, check their answers and give them help.

Whichever method you use to elicit/present the vocabulary, you should then model it (say it clearly, highlighting the word stress) and get them to repeat the words after you.

biotech

(short for biotechnology) the use of living organisms or other biological systems in the manufacture of drugs or other products

has won initial permission

has been allowed to do something at the present time, but may not be allowed to do it in the future

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implanted

surgically placed inside a living body

saliva

the watery fluid that is produced naturally in the mouth

to extract

to take out the active or most useful part of a substance by chemical or mechanical action, such as pressure, distillation, or evaporation

consumer groups

groups of people who work together to look after the rights of people who buy or use goods or services

contaminating

making something dirty or unusable by contact or mixture with something unclean, dangerous or bad

a drug review process

an official process of controlled testing to make sure a drug is safe for general use

regulatory hurdles

official rules and regulations that must be followed before something can be made available to the public

DNA

(short for deoxyribonucleic acid) the acid which carries genetic information in a cell

C Written record of vocabulary

Write the words on the board, eliciting spelling as you write. Elicit and show the word stress of each item and word class, if appropriate.

Give students some time to copy the boardwork into their notebooks.

Boardwork:

biotech**has won initial permission****implanted****saliva****to extract**

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consumer groups

contaminating

a drug review process

regulatory hurdles

DNA

consumers

D Set global questions

Tell the students they are going to read a text which is about a new development in GM crops.

Put these questions on the board:

1. What is the crop?
2. What is special about the DNA of this crop?
3. Do you think that growing this rice is a good or bad idea?

Students read text the first time.

Give them a time limit (1 - 2 minutes) to read the text quickly to find the answer to the first 2 questions. They do not need to understand the details for each topic.

E Check answers

Elicit students' answers to questions 1 and 2; invite comments in response to the third question.

The answers are:

- 1 – Rice.
- 2 – It is implanted with genes found in human breast milk and saliva.
- 3 – Invite students to give and justify their opinions.

F Set comprehension questions

Hand out Worksheet 1 or use the online quiz. Students complete the worksheet to help them understand the text in more detail. Give them a time limit (5 - 6 minutes) to read the text a second time in more detail and to answer the questions.

G Check answers

Elicit True or False answers. Direct attention to a particular paragraph if an answer is wrong to try to elicit the correct answer (see worksheet 1 and answer key).

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H Vocabulary consolidation/building

Students do the vocabulary matching exercise (worksheet 2 that you cut up before the lesson): in small groups they match each word with the right definition.

I Check answers

Elicit answers. If an answer is wrong, ask other students to try to elicit the correct answer.

J Grammar focus: infinitive of purpose

Direct students' attention to these 2 sentences:

It would be the first time a crop has been used to produce human proteins on a large scale.

The company, Ventria Bioscience, wants to extract the proteins to make a medicine for diarrhoea and possibly to add them to health foods.

Ask students to find and comment on the infinitives (with to) in these extracts.

They are: 'to produce', 'to extract' 'to make' and 'to add'.

Comment: 'to extract' takes the infinitive form because it follows the verb 'to want'. The others - 'to produce', 'to make' and 'to add' – are infinitives of purpose and they give information about *why* something is done. Check understanding of this concept by asking 'what do they want to do' and 'why did they do it?'

Hand out Worksheet 3 which focuses on infinitive of purpose. Tell students to rewrite the sentences using the infinitive of purpose. They may have to change a few words and/or add a verb.

K Check answers

If an answer is wrong, ask other students to try to elicit the correct answer (see worksheet 3 and answer key).

L Follow-up activity: speaking - discussion

Set up a short discussion. Write the following question on the board: 'Is it acceptable to implant human genes into crops for medicinal purposes?'

As a class, think of a few ways to answer the question starting with the words, 'Yes, because...' and starting with 'No, because...'. Divide the class in two groups of equal size: one will be the 'Yes, because...' group and the other will be the 'No, because...' group. Put students into pairs and give them a few more minutes in which to prepare further points for 'Yes...' or 'No...' – depending on which group they are in. After a few minutes preparation, join each 'Yes' pair with a 'No' pair to discuss and debate the question on the board.

M Feedback

Give praise for content and show your interest in the different views expressed.

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Give praise for correct language, and give feedback on incorrect language. You could write some example phrases or sentences on the board and elicit from students which ones are correct and which ones are wrong and why.

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STUDENT WORKSHEET 1

COMPREHENSION QUESTIONS

Are the following sentences true or false?

1.	The new rice has been developed by the farming industry.	T/F
2.	The new rice can be used to make medicines.	T/F
3.	Some people think the new rice could be dangerous.	T/F
4.	The new rice has contaminated the food supply.	T/F
5.	The company has taken steps to ensure that the new rice will not affect existing rice crops.	T/F
6.	More tests will be done on the rice before it is made available for sale.	T/F

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STUDENT WORKSHEET 2

VOCABULARY

Match these words and phrases to their definitions.

- | | |
|--------------------------------------|---|
| 1. biotech | A. has been allowed to do something at the present time, but may not be allowed to do it in the future |
| 2. has won initial permission | B. groups of people who work together to look after the rights of people who buy or use goods or services |
| 3. implanted | C. making something dirty or unusable by contact or mixture with something unclean, dangerous or bad |
| 4. saliva | D. (short for deoxyribonucleic acid) the acid which carries genetic information in a cell |
| 5. to extract | E. official rules and regulations that must be followed before something can be made available to the public |
| 6. consumer groups | F. the watery fluid that is produced naturally in the mouth |
| 7. contaminating | G. surgically placed inside a living body |
| 8. a drug review process | H. an official process of controlled testing to make sure a drug is safe for general use |
| 9. regulatory hurdles | I. (short for biotechnology) the use of living organisms or other biological systems in the manufacture of drugs or other products |
| 10. DNA | J. to take out the active or most useful part of a substance by chemical or mechanical action, such as pressure, distillation, or evaporation |

STUDENT WORKSHEET 3

GRAMMAR FOCUS – Infinitive of Purpose

Rewrite the sentences using the infinitive of purpose.

Example:

I went to the mall because I needed a new coat.

I went to the mall to buy a new coat.

1. She wanted some fresh air, so she opened the window.
She opened...
2. I'm going to New York next week because I have a friend who lives there.
I'm going to New York...
3. I needed some medicine, so I went to the chemist's.
I went...
4. I wanted to find the correct spelling of the word, so I looked in the dictionary.
I looked...
5. These large pots are used for storing water.
These large pots...
6. I didn't want the milk to go bad, so I put it in the fridge.
I put...
7. John had to tell Keiko about the party, so he called her.
John called...
8. I didn't know what to get my sister for her birthday, so I called her husband.
I called my sister's...
9. I'm going to university. My chosen subject is history.
I'm going...
10. I've always wanted to see the pyramids, and I'm going to Egypt next month!
I'm going...

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ANSWER KEY

STUDENT WORKSHEET 1

1. False – Paragraph 1 of the written text says, 'In a major advance for the biotech industry...'
2. True – Paragraph 2 says, 'The company, Ventria Bioscience, wants to extract the proteins to make a medicine for diarrhoea...'
3. True – Paragraph 2 says, 'The US Centre for Food Safety's Bill Freece, claims there's a danger of contaminating other crops and possibly harming human health.'
4. False – Paragraph 3 says there is 'the potential for this rice to get into the food supply'
5. True – Paragraph 3 says, 'The company insist there's no risk of contamination because the crop will be planted in Kansas where no other rice crops are grown.'
6. True – Paragraph 4 says, '...there are many bigger regulatory hurdles before the first food with human DNA can be sold to consumers.'

STUDENT WORKSHEET 2

- | | | | | |
|------|------|------|------|-------|
| 1. I | 2. A | 3. G | 4. F | 5. J |
| 6. B | 7. C | 8. H | 9. E | 10. D |

STUDENT WORKSHEET 3

Suggested answers:

1. She opened the window *to get* some fresh air.
2. I'm going to New York next week *to see / visit / stay with* a friend who lives there.
3. I went to the chemist's *to get / buy* some medicine.
4. I looked in the dictionary *to find* the correct spelling of the word.
5. These large pots are used *to store* water.
6. I put the milk in the fridge *to stop* it going bad.
7. John called Keiko *to tell* her about the party.
8. I called my sister's husband *to ask* him what to get my sister for her birthday.
9. I'm going to university *to study / learn about* history.
10. I'm going to Egypt next month *to see* the pyramids.